

# **Document made available under the Patent Cooperation Treaty (PCT)**

International application number: PCT/GB04/005301

International filing date: 17 December 2004 (17.12.2004)

Document type: Certified copy of priority document

Document details: Country/Office: GB  
Number: 0329688.6  
Filing date: 22 December 2003 (22.12.2003)

Date of receipt at the International Bureau: 08 February 2005 (08.02.2005)

Remark: Priority document submitted or transmitted to the International Bureau in compliance with Rule 17.1(a) or (b)



World Intellectual Property Organization (WIPO) - Geneva, Switzerland  
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PCT/GB2004/005301



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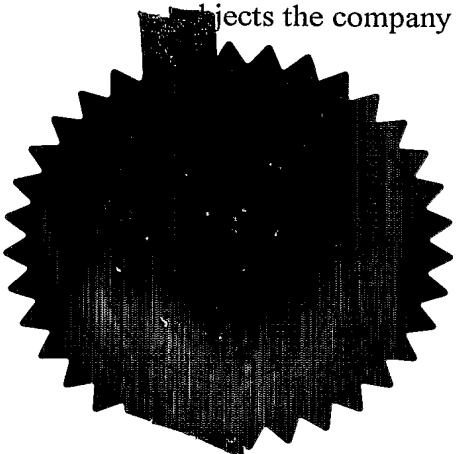
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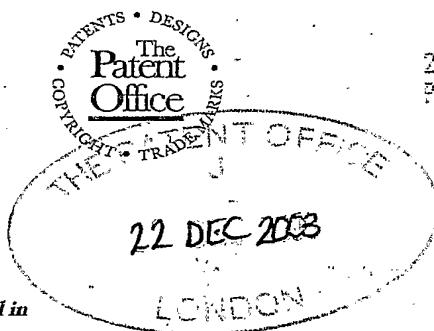
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22 DEC 2003

**Request for grant of a patent**

(See the notes on the back of this form. You can also get an explanatory leaflet from the Patent Office to help you fill in this form)

1. Your reference

*NIGEL 1*

2. Patent application number

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0329688.6

3. Full name, address and postcode of the or of each applicant (underline all surnames)

*NIGEL PAUL ROSE 22 FITZWATER ROAD  
LITTLE DUNMOW ESSEX CM16 3FH*

Patents ADP number (if you know it)

If the applicant is a corporate body, give the country/state of its incorporation

8771807001

4. Title of the invention

*METHOD OF INSULATION*

5. Name of your agent (if you have one)

"Address for service" in the United Kingdom to which all correspondence should be sent (including the postcode)

*N/A*

Patents ADP number (if you know it)

6. Priority: Complete this section if you are declaring priority from one or more earlier patent applications, filed in the last 12 months.

Country

Priority application number  
(if you know it)Date of filing  
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7. Divisionals, etc: Complete this section only if this application is a divisional application or resulted from an entitlement dispute (see note f)

Number of earlier UK application

Date of filing  
(day / month / year)

8. Is a Patents Form 7/77 (Statement of inventorship and of right to grant of a patent) required in support of this request?

*NO*

Answer YES if:

- any applicant named in part 3 is not an inventor, or
- there is an inventor who is not named as an applicant, or
- any named applicant is a corporate body.

Otherwise answer NO (See note d)

**Patents Form 1/77**

9. Accompanying documents: A patent application must include a description of the invention. Not counting duplicates, please enter the number of pages of each item accompanying this form:

Continuation sheets of this form

Description *TWO*

Claim(s) *NIL*

Abstract *NIL*

Drawing(s) *ONE + 1*

10. If you are also filing any of the following, state how many against each item.

Priority documents

Translations of priority documents

Statement of inventorship and right to grant of a patent (Patents Form 7/77)

Request for a preliminary examination and search (Patents Form 9/77)

Request for a substantive examination (Patents Form 10/77)

Any other documents (please specify)

11. I/We request the grant of a patent on the basis of this application.

Signature(s) *Nigel Rose*

Date *16/12/03*

12. Name, daytime telephone number and e-mail address, if any, of person to contact in the United Kingdom

*NIGEL ROSE 07739 552736  
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## Method of insulation

Swimming pools are mostly uninsulated. This is a process for insulating against heat loss from swimming pool walls and floors in new and existing pools. This invention will reduce heating costs by stopping some of the heat conduction between the water and the structure, plus surrounding matter.

The term swimming pool is a container that will hold liquids above or below ground and holds more than 500 litres of water or liquids. Swimming pools come in variety of shapes and sizes and are built to personal requirements and specifications and are not necessarily used for swimming in, this is a general term. The structure of the pool can be made up of anything from fiber glass, plastics, wood, concrete, bricks, etc.

A disadvantage of these methods of construction is that heat from the swimming pool water is transferred directly through the pool structure and into the ground or air. It can thus be very expensive to heat the pool water, particularly in the winter months.

This invention is for a pool construction, a method in which the swimming pool side walls and floor are thermally insulated from the surrounding structure and matter, this system is applicable to new and old swimming pools. By internally fixing suitable insulation sheets or boards to the structure by way of adhesive and mechanical fixings it will reduce the heat conduction from the water to the structure and matter. Once the insulation has been fitted then any of the various finishes can be applied. If a liner pool was requested, then it would be suitable to fit the plastic liner after the insulation has been fitted and thereafter continue with the finishing. To finish the pool in another finish it would be suitable to use a cementitious adhesive with a mesh imbedded into it, this could also be mechanically fixed through the materials and into the structure. This then allows numerous finishes to be applied to finish the pool to the required specification. The swimming pool is to be constructed in the usual ways that it has been proven to be suitable. With old pools that are to have this system retro fitted the pool surface would be made suitable to apply any adhesive and insulation system.

The primary object of this invention is therefore to provide a swimming pool which is thermally insulated from the surrounding structure and matter.

Another primary object of the invention is to provide a system which is able to be fitted to older swimming pools as well as one that have yet to be built.

Another primary object of the invention is to provide a system which is effective at reducing temperature losses.

The foregoing and other objects, features and advantages of this invention will become more apparent from the following detailed description, which proceeds with reference to the accompanying drawings.



In the drawings:

FIG. 1 is a general cross sectional view, not to any set scale showing the swimming pool construction and insulation system with a render finish.

- 10 is the pool structure.
- 14 is suitable adhesive to bond the insulation to the structure this may not be necessary on some applications
- 11 is the suitable insulation board or sheets
- 15 are mechanical fixings of either plastic or metal, these may not be necessary on some applications
- 12 is a cementitious adhesive with woven mesh imbedded inside
- 13 is waterproof sand and cement render finish.
- 17 is water

One method of constructing in-ground swimming pools you make an excavation in the ground; line the excavation walls with wire mesh screen and then simply spray a fluid cementitious material such as gunnite directly against the excavation sidewalls and the wire mesh screen to build up the side and bottom walls to a 350mm thicknesses giving you the suitable pool structure. You then apply a coating of S-2625 E epoxy adhesive to attach the Phenolic Insulation boards of 80 mm thickness, then you drill and fix through the boards into the structure using a Termofitfix hammerset fixing S8 of 110mm length. Then you apply a coat of M.R. ST1 composite mortar of 5 to 10mm and embed M.R Scrim. Then apply a waterproofed sand and cement render. Then apply two coats of pool paint to finish. This will give you a basic finished pool structure which will allow you to fill with water.

Where I've mentioned an in ground gunnite pool, other pools of other constructions are also suitable for this system. Where I've mentioned S-2625 E epoxy adhesive and Phenolic Insulation boards, other adhesives and insulations boards can be used. Like wise with Termofitfix hammerset fixing S8 and M.R. ST1 composite mortar and M.R Scrim do not have to be used, these are possible examples and the paint finish is a possible example finish. As long as the structure is suitable for its intended use and the insulation reduces the heat conduction from walls and floors and the required finish is obtained then many other suitable products can be applied using this system.



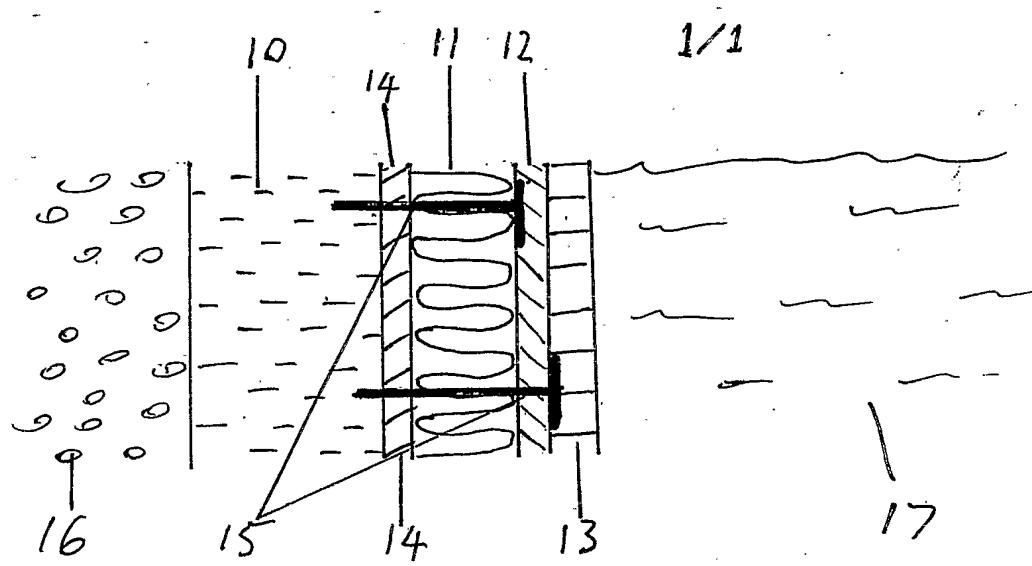


FIG 1

